

What is claimed is:

1. A method of forming a porous structure comprising:
providing a composite comprising at least a first material that is not soluble in a supercritical fluid and a second material that is soluble in a supercritical fluid; and
contacting the composite with the supercritical fluid to extract the second material from the composite and thus form the porous structure.
2. The method according to claim 1 wherein the composite is in the form of particles prior to being contacted with the supercritical fluid.
3. The method according to claim 2 wherein the first material is selected from the group consisting of pharmaceuticals, biodegradable polymers, biological agents and combinations of two or more thereof.
4. The method according to claim 2 wherein the composite particles are in a fluidized bed when contacted with the supercritical fluid.
5. The method according to claim 2 wherein the composite particles are suspended in a solvent that is not soluble in the supercritical fluid when contacted with the supercritical fluid.
6. The method according to claim 1 wherein the composite is in the form of a solid matrix when contacted with the supercritical fluid.
7. The method according to claim 1 wherein the supercritical fluid is supercritical carbon dioxide.
8. The method according to claim 2 wherein the porous structure is a particle comprising a pharmaceutical, a biodegradable polymer, a biological agent or a combination of two or more thereof having a diameter that is suitable for administration to a human patient by inhalation.

9. The method according to claim 9 wherein the porous particles have an aerodynamic size range of from about 0.5 to about 5 microns and a geometric volume diameter of from about 1 to about 20 microns.

10. A method of forming a porous structure having a desired degree of porosity comprising:

providing a first material that is not soluble in a supercritical fluid;

providing a second material that is soluble in a supercritical fluid;

contacting the first material and the second material together under conditions adequate to form a composite, wherein the amount and distribution of the second material in the composite determines the porosity of the resulting porous structure; and

contacting the composite with the supercritical fluid to extract the second material from the composite and thus form the porous structure.